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Grand Gulf Nuclear Station
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GNRO-2013/00005

March 4, 2013

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

SUBJECT: Licensee Event Report 2013-001-00 Reactor Protection System Actuation
Due to a Main Turbine Generator Trip
Grand Gulf Nuclear Station, Unit 1
Docket No. 50-416
License No. NPF-29

Dear Sir or Madam:

Attached is Licensee Event Report 2013-001-00, which is a final report. This report is submitted in accordance with Title 10 *Code of Federal Regulations* 50.73(a)(2)(iv)(A).

This letter contains no new commitments. If you have any questions or require additional information, please contact Christina L. Perino at (601) 437-6299.

Sincerely,

A handwritten signature in cursive script that reads "James McDevitt" followed by "for C.L. Perino" in a smaller, less cursive script.

CLP/ras

Attachment: Licensee Event Report (LER) 2013-001-00

cc: (see next page)

cc: U. S. Nuclear Regulatory Commission
ATTN: Mr. Elmo E. Collins, Jr.
Regional Administrator, Region IV
1600 East Lamar Boulevard
Arlington, TX 76011-4511

U. S. Nuclear Regulatory Commission
ATTN: Mr. Alan Wang, NRR/DORL
Mail Stop OWFN/8 B1
11555 Rockville Pike
Rockville, MD 20852-2378

NRC Senior Resident Inspector
Grand Gulf Nuclear Station
Port Gibson, MS 39150

Attachment to
GNRO-2013/00005
Licensee Event Report (LER) 2013-001-00

NRC FORM 366 (10-2010)		U.S. NUCLEAR REGULATORY COMMISSION			APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2013 Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA/Privacy Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects.resource@nrc.gov , and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.																																									
LICENSEE EVENT REPORT (LER) (See reverse for required number of digits/characters for each block)																																														
1. FACILITY NAME Grand Gulf Nuclear Station, Unit 1					2. DOCKET NUMBER 05000 416		3. PAGE 1 OF 4																																							
4. TITLE Reactor Protection System Actuation Due to a Main Turbine Generator Trip																																														
5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED																																					
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	N/A																																				
01	04	2013	2013-001-00			03	05	2013	N/A	N/A																																				
9. OPERATING MODE <div style="text-align: center; font-size: 24pt;">1</div>			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> 20.2201(b)</td> <td><input type="checkbox"/> 20.2203(a)(3)(i)</td> <td><input type="checkbox"/> 50.73(a)(2)(i)(C)</td> <td><input type="checkbox"/> 50.73(a)(2)(vii)</td> </tr> <tr> <td><input type="checkbox"/> 20.2201(d)</td> <td><input type="checkbox"/> 20.2203(a)(3)(ii)</td> <td><input type="checkbox"/> 50.73(a)(2)(ii)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(viii)(A)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(1)</td> <td><input type="checkbox"/> 20.2203(a)(4)</td> <td><input type="checkbox"/> 50.73(a)(2)(ii)(B)</td> <td><input type="checkbox"/> 50.73(a)(2)(viii)(B)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(i)</td> <td><input type="checkbox"/> 50.36(c)(1)(i)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(iii)</td> <td><input type="checkbox"/> 50.73(a)(2)(ix)(A)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(ii)</td> <td><input type="checkbox"/> 50.36(c)(1)(ii)(A)</td> <td><input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(x)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(iii)</td> <td><input type="checkbox"/> 50.36(c)(2)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(A)</td> <td><input type="checkbox"/> 73.71(a)(4)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(iv)</td> <td><input type="checkbox"/> 50.46(a)(3)(ii)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(B)</td> <td><input type="checkbox"/> 73.71(a)(5)</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(v)</td> <td><input type="checkbox"/> 50.73(a)(2)(i)(A)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(C)</td> <td><input type="checkbox"/> OTHER</td> </tr> <tr> <td><input type="checkbox"/> 20.2203(a)(2)(vi)</td> <td><input type="checkbox"/> 50.73(a)(2)(i)(B)</td> <td><input type="checkbox"/> 50.73(a)(2)(v)(D)</td> <td>Specify in Abstract below or in NRC Form 366A</td> </tr> </table>								<input type="checkbox"/> 20.2201(b)	<input type="checkbox"/> 20.2203(a)(3)(i)	<input type="checkbox"/> 50.73(a)(2)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)	<input type="checkbox"/> 20.2203(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(v)(C)	<input type="checkbox"/> OTHER	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A
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10. POWER LEVEL <div style="text-align: center; font-size: 24pt;">94</div>																																														
12. LICENSEE CONTACT FOR THIS LER																																														
FACILITY NAME Jeffery A. Seiter / Acting Licensing Manager								TELEPHONE NUMBER (Include Area Code) (601) 437-2344																																						
13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT																																														
CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX																																					
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14. SUPPLEMENTAL REPORT EXPECTED <input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO						15. EXPECTED SUBMISSION DATE																																								
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)																																														
<p>At 23:37 Central Standard Time on January 4, 2013, Grand Gulf Nuclear Station experienced an unexpected Reactor SCRAM caused by a Main Generator trip. The plant was operating in Mode 1 at 94 percent thermal power. All safety systems responded per design. Safety Relief Valves opened at the onset of the event to control reactor pressure and reseated properly. All control rods inserted when the signals generated by the Reactor Protection System were received. There were no Emergency Core Cooling System actuations. The shift immediately entered the appropriate Off Normal Event Procedures. The plant was stabilized with pressure control on the main turbine bypass valves and level control on the start-up level control valve, although high pressure feedwater heater start-up outlet valve 1N21F010B did not open. The cause of the SCRAM was the Main Generator 'A' Phase Neutral Current Transformer (CT) experienced partial grounding due to inadequate clearance between the micarta plate bolts and bottom of the CT allowing the conductors to come in contact with a bolt providing a shunt path to ground. This was caused by inadequate workmanship and work instructions not specifying the clearance during installation. There were no adverse effects on the health or safety of the public as a result of this event. The micarta plate bolts were subsequently removed or cut to provide adequate clearance prior to plant restart.</p>																																														

LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Grand Gulf Nuclear Station, Unit 1	05000 416	YEAR	SEQUENTIAL NUMBER	REV. NO.	2 OF 4
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NARRATIVE

A. REPORTABLE OCCURRENCE

This Licensee Event Report (LER) is being submitted pursuant to Title 10 Code of Federal Regulations (10 CFR) 50.73(a)(2)(iv)(A) for an automatic actuation of the Reactor Protection System (EIS:JC) (RPS). Telephonic notification was made to the U.S. Nuclear Regulatory Commission (NRC) Emergency Notification System on January 5, 2013, within 4 hours of the event pursuant to 10 CFR 50.72(b)(3)(iv)(A).

B. INITIAL CONDITIONS

At the time of the event the reactor was in operational mode 1 with reactor power at 94 percent. There were no additional inoperable structures, systems, or components at the start of the event that contributed to this event.

C. DESCRIPTION OF OCCURRENCE

At 23:37 Central Standard Time on January 4, 2013, Grand Gulf Nuclear Station experienced an unexpected Reactor SCRAM caused by a Main Generator (EIS:TB) trip. The plant was operating in Mode 1 at 94 percent thermal power. All safety systems responded per design. Safety Relief Valves (EIS:RV) (SRVs) opened at the onset of the event to control reactor pressure and reseated properly. All control rods (EIS:ROD) inserted when the signals generated by the RPS were received. There were no Emergency Core Cooling System actuations. The shift immediately entered the appropriate Off Normal Event Procedures. The plant was stabilized with pressure control on the main turbine bypass valves (EIS:PCV) and level control on the start-up level control valve (EIS:LCV). High pressure feedwater heater start-up outlet valve (start-up outlet valve) 1N21F010B did not open when the start-up level control valve was placed in service but did not prevent Operations from controlling the reactor water level. The plant responded to the trip as designed with the exception of the one start-up outlet valve noted above.

D. CAUSE

The cause of the SCRAM was the Main Generator 'A' Phase Neutral Current Transformer (EIS:XCT) (CT) experienced partial grounding due to inadequate clearance between the micarta plate bolts and bottom of the CT allowing the conductors to come in contact with a bolt providing a shunt path to ground. This was caused by inadequate workmanship and inadequate work instructions not specifying the clearance during installation.

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E. CORRECTIVE ACTIONS

Removal and/or thread cutting of the micarta plate bolts to ensure minimum cold clearance of 0.5 inch between the CT and the micarta plate bolts was completed on January 6, 2013.

For each main generator CT, the Post Maintenance Test special requirement planning notes will be revised to ensure that 0.5 inch cold clearance is maintained between the micarta plate bolts and the main generator CTs.

Plant personnel will perform boroscopic inspection of CTs and add work instruction steps that include Entergy hold points to ensure adequate cold clearance of 0.5 inch is maintained between the micarta plate bolts and the main generator CTs.

Applicable drawings will be revised to incorporate a minimum cold clearance of 0.5 inch to be maintained between the CT and micarta plate bolts.

F. SAFETY ASSESSMENT

The event posed no threat to public health and safety as the RPS performed as designed. All safety systems responded as designed. The breaker thermal for the 1N21F010B start-up outlet valve was reset and returned to service and did not prevent Operations from controlling the reactor water level.

Immediate actions performed by the Operations staff were adequate and appropriate in placing and maintaining the reactor in a safe shutdown condition.

Nuclear safety was not significantly compromised because safety related equipment necessary to safely shutdown the unit performed its safety function.

During the event, no Technical Specification defined Safety Limits were challenged.

Radiological Safety was not affected since there was no radiological release to the public during the event.

Response of the crew did not challenge established industrial safety protocol or requirements. There was no impact to the safety of the public, industrial safety or radiological safety as a result of this event.

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G. ADDITIONAL INFORMATION

The cause was the same as the December 29, 2012, SCRAM, which is addressed in LER-2012-008-00 and CR-GGN-2012-13290. The instruments installed following the December 29, 2012, SCRAM enabled the determination of the cause of both SCRAMs. CR-GGN-2008-01476 documents a CT-related SCRAM but was not caused by CT grounding. The CT that caused both the December 29, 2012, SCRAM and the January 4, 2013, SCRAM was installed between February and April 2012.

The cause of start-up outlet valve 1N21F010B not opening was determined to be a thermal overload breaker trip. The breaker thermal was reset and the valve was returned to service. CR-GGN-2012-13297 documents this issue and the corrective actions that will be taken as part of a work order during the next refueling outage.